

```

VVV      VVV  MMM      MMM      SSSSSSSSSSSSS  LLL      IIIIIIIII  000000000000
VVV      VVV  MMM      MMM      SSSSSSSSSSSSS  LLL      IIIIIIIII  000000000000
VVV      VVV  MMM      MMM      SSSSSSSSSSSSS  LLL      IIIIIIIII  000000000000
VVV      VVV  MMMMMM  MMMMMM  SSS      LLL      III      000      000
VVV      VVV  MMMMMM  MMMMMM  SSS      LLL      III      000      000
VVV      VVV  MMMMMM  MMMMMM  SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSSSSSSSSS  LLL      III      000000000000
VVV      VVV  MMM      MMM      SSSSSSSSSS  LLL      III      000000000000
VVV      VVV  MMM      MMM      SSSSSSSSSS  LLL      III      000000000000
VVV      VVV  MMM      MMM      SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSS      LLL      III      000      000
VVV      VVV  MMM      MMM      SSSSSSSSSSSS  LLLLLLLLLLLLLLLLL  IIIIIIIII  000000000000
VVV      VVV  MMM      MMM      SSSSSSSSSSSS  LLLLLLLLLLLLLLLLL  IIIIIIIII  000000000000
VVV      VVV  MMM      MMM      SSSSSSSSSSSS  LLLLLLLLLLLLLLLLL  IIIIIIIII  000000000000

```

```
000000  FFFFFFFF FFFFFFFF SSSSSSSS EEEEEEEEE TTTTTTTTT
000000  FFFFFFFF FFFFFFFF SSSSSSSS EEEEEEEEE TTTTTTTTT
00      00  FF      FF      SS      EE      TT
00      00  FF      FF      SS      EE      TT
00      00  FF      FF      SS      EE      TT
00      00  FF      FF      SS      EE      TT
00      00  FFFFFFF FFFFFFF SSSSSSS EEEEEEEEE TT
00      00  FFFFFFF FFFFFFF SSSSSSS EEEEEEEEE TT
00      00  FF      FF      SS      EE      TT
00      00  FF      FF      SS      EE      TT
00      00  FF      FF      SS      EE      TT
00      00  FF      FF      SS      EE      TT
000000  FF      FF      SSSSSSS EEEEEEEEE TT
000000  FF      FF      SSSSSSS EEEEEEEEE TT
                                ....
                                ....
                                ....
                                ....
```

```
MM      MM      AAAAAA RRRRRRRR
MM      MM      AAAAAA RRRRRRRR
MMM     MMM     AA      AA  RR      RR
MMM     MMM     AA      AA  RR      RR
MM      MM      AA      AA  RR      RR
MM      MM      AA      AA  RRRRRRRR
MM      MM      AA      AA  RRRRRRRR
MM      MM      AAAAAAAAAA RR      RR
MM      MM      AAAAAAAAAA RR      RR
MM      MM      AA      AA  RR      RR
MM      MM      AA      AA  RR      RR
MM      MM      AA      AA  RR      RR
MM      MM      AA      AA  RR      RR
```

Version: 'V04-000'

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MACRO TO GENERATE A OFFSET LIST FOR A DATA STRUCTURE

IT IS USEFUL FOR INPUT ARGUMENT LISTS POSITIVELY INDEXED FROM AP, AND
WORK AREAS ALLOCATED IN CALL STACK AND NEGATIVELY INDEXED FROM FP.

CALL: \$OFFSET INITIAL,DIRECTION,<<LAB1,[SIZE]>>,...,<LABN,[SIZE]>>

WHERE: INITIAL IS A REQUIRED VALUE FOR THE INTIAL INDEX WHEN
ORIGINATING A DATA STRUCTURE DEFINITION. IT IS NORMALLY
(+) 4 FOR ARGUMENT LISTS AND 0 FOR WORK AREAS.

DIRECTION IS A KEYWORD THAT MUST BE:
POSITIVE - FOR STRUCTURES GROWING UP IN MEMORY
NEGATIVE - FOR STRUCTURES GROWING DOWN IN MEMORY
OR BLANK, IN WHICH CASE "POSITIVE" IS ASSUMED.

THE LABEL, SIZE LIST IS THE SYMBOLIC NAME FOR THE LOCATION
AND THE OPTIONAL SIZE OF THE ELEMENT. IF BLANK, SIZE IS
ASSUMED TO BE 4 (ONE LONGWORD).

TO PERMIT THE DEFINITION OF AN INDEFINITLY LARGE NUMBER OF LABELS,
THE MACRO MAY BE CONTINUED. IN THIS CASE THE "INITIAL" AND
"DIRECTION" ARGUMENTS MUST BE BLANK.

--
.MACRO \$OFFSET INITVALUE,DIRECTION,SYMLST
.SAVE
.PSECT \$ABSS ABS
.IF B,INITVALUE
.=SAVABS...
.IF NB,DIRECTION

```
.ERROR ; DIRECTION MUST BE BLANK WHEN CONTINUING;
.MEXIT
.ENDC
.IFF
DIR...=1
.=INITVALUE
.IF NB,DIRECTION
.IF IDN <DIRECTION>,<POSITIVE>
.IFF
.IF IDN <DIRECTION>,<NEGATIVE>
DIR...=-1
.IFF
.ERROR ; 'DIRECTION' MUST BE 'POSITIVE','NEGATIVE', OR BLANK;
.ENDC
.ENDC
.ENDC
.ENDC
.IRP SYM,<SYMLST>
$OFFST1 SYM
.ENDR
SAVABS...=.
.RESTORE
.ENDM $OFFSET

.MACRO $OFFST1 SYM,SIZ=4
.IF LT,SIZ
.ERROR ;***** SIZ PARAMETER NEGATIVE *****;
.ENDC
.IF LT,DIR...
.BLKB -SIZ
.ENDC
.IF NB,SYM
.LIST MEB
.NLIST MEB
.ENDC
.IF GT,DIR...
.BLKB SIZ
.ENDC
.ENDM $OFFST1
```

SYM:

0434 AH-BT13A-SE
VAX/VMS V4.0

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